

WHAT IS CLAIMED IS:

1. A current-sense bias circuit for use with a
magnetoresistive head, comprising:

a voltage biasing portion configured to provide a bias voltage
across said magnetoresistive head thereby establishing a bias
current through said magnetoresistive head; and

a current sensing portion coupled to said voltage biasing
portion and configured to sense a change in said bias current based
on a resistivity change of said magnetoresistive head.

2. The current-sense bias circuit as recited in Claim 1
wherein said bias voltage is provided by first and second bipolar
transistors.

3. The current-sense bias circuit as recited in Claim 2
wherein said magnetoresistive head interposes first and second
emitters of said first and second bipolar transistors.

4. The current-sense bias circuit as recited in Claim 2
wherein a source for said bias voltage interposes first and second
bases of said first and second bipolar transistors.

5. The current-sense bias circuit as recited in Claim 1
2 wherein said change in said bias current employs first and second
3 current sources.

6. The current-sense bias circuit as recited in Claim 1
2 wherein said change in said bias current provides a proportional
3 differential voltage.

7. The current-sense bias circuit as recited in Claim 6
2 wherein first and second resistors are employed to develop said
3 proportional differential voltage.

8. A method of sensing a current for use with a
2 magnetoresistive head, comprising:

3 providing a bias voltage across said magnetoresistive head
4 thereby establishing a bias current through said magnetoresistive
5 head; and

6 sensing a change in said bias current based on a resistivity
7 change of said magnetoresistive head.

9. The method of sensing a current as recited in Claim 8
2 wherein said providing said bias voltage employs first and second
3 bipolar transistors.

10. The method of sensing a current as recited in Claim 9
2 wherein said providing said bias voltage employs said
3 magnetoresistive head interposed first and second emitters of said
4 first and second bipolar transistors.

11. The method of sensing a current as recited in Claim 9
2 wherein said providing said bias voltage employs a source for said
3 bias voltage interposed first and second bases of said first and
4 second bipolar transistors.

12. The method of sensing a current as recited in Claim 8
2 wherein said sensing said change in said bias current employs first
3 and second current sources.

13. The method of sensing a current as recited in Claim 8
2 wherein said sensing said change in said bias current provides a
3 proportional differential voltage.

14. The method of sensing a current as recited in Claim 13
2 wherein said sensing said change in said bias current employs first
3 and second resistors to develop said proportional differential
4 voltage.

15. A hard disk drive system, comprising:

2 a motor;
3 a storage medium coupled to said motor for rotation thereby;
4 a magnetoresistive read head proximate at least one surface of
5 said storage medium; and

6 a current-sense bias circuit for use with said
7 magnetoresistive read head, including:

8 a voltage biasing portion that provides a bias voltage
9 across said magnetoresistive read head thereby establishing a
10 bias current through said magnetoresistive read head, and

11 a current sensing portion, coupled to said voltage
12 biasing portion, that senses a change in said bias current
13 based on a resistivity change of said magnetoresistive read
14 head.

16. The hard disk drive system as recited in Claim 15 wherein
2 said bias voltage is provided by first and second bipolar
3 transistors.

17. The hard disk drive system as recited in Claim 16 wherein
2 said magnetoresistive head interposes first and second emitters of
3 said first and second bipolar transistors.

18. The hard disk drive system as recited in Claim 16 wherein
2 a source for said bias voltage interposes first and second bases of
3 said first and second bipolar transistors.

19. The hard disk drive system as recited in Claim 15 wherein
2 said change in said bias current employs first and second current
3 sources.

20. The hard disk drive system as recited in Claim 15 wherein
2 said change in said bias current provides a proportional
3 differential voltage.

21. The hard disk drive system as recited in Claim 20 wherein
2 first and second resistors are employed to develop said
3 proportional differential voltage.